

up to 110 l/min  
up to 400 bar

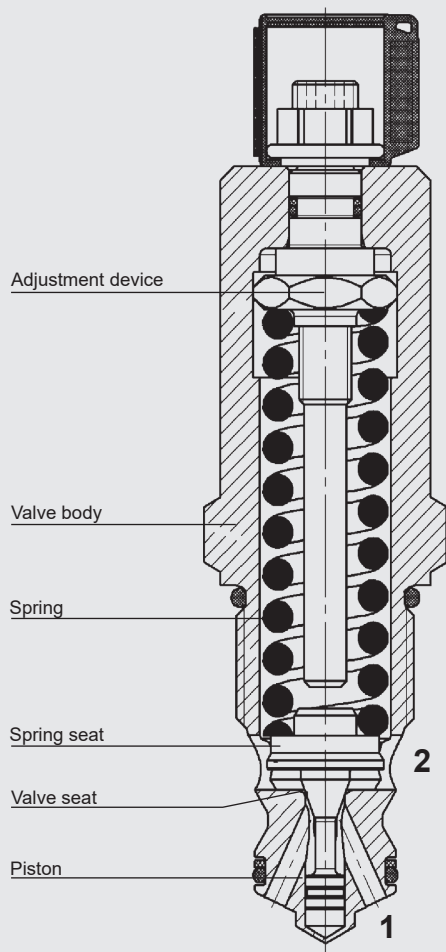
## Safety valve

### DB12120A-011-CE

### DB12120A-011-UKCA

Poppet Type, Direct-Acting  
Cartridge Valve, Metric – 400 bar

## FUNCTION



## PRODUCT ADVANTAGES

- Low hysteresis and accurate pressure control
- Excellent stability throughout the entire flow range
- Various pressure ranges up to 400 bar
- External surfaces with advanced corrosion protection due to ZnNi coating (1,000 h salt spray test)

## DESCRIPTION OF FUNCTION

The safety valve is rated on the basis of its opening characteristics in accordance with AD 2000 as a standard relief valve. The design corresponds to that of a direct-acting, spring-loaded relief valve.

With approval for the European market and the UK

- EU: in acc. with PED 2014/68/EU and type approval test in accordance with Vd-TÜV
- GB: in acc. with PE(S)R 2016

The compression spring exerts a force on the closing poppet and presses it on the valve seat. If the hydraulic pressure is below the pre-set spring force, the valve is closed. Only if the hydraulic force exceeds the pre-set spring force does the valve open and flow is diverted to the tank via port 2. This continues until the pressure force drops below the spring force and the valve closes again.

Please make sure to observe the operating instructions in this regard, which are enclosed with the product on delivery.

### The key points are stated below:

- No oil accumulation or pressure build-up permitted in the tank connection (port 2) (in acc. with DIN EN ISO 4126-1)
- If the terminal connections are incorrect, the safety function of the valve is disabled
- The pressure setting configured before delivery must not be altered
- The valve must not be disassembled

## TECHNICAL CHARACTERISTICS<sup>1)</sup>

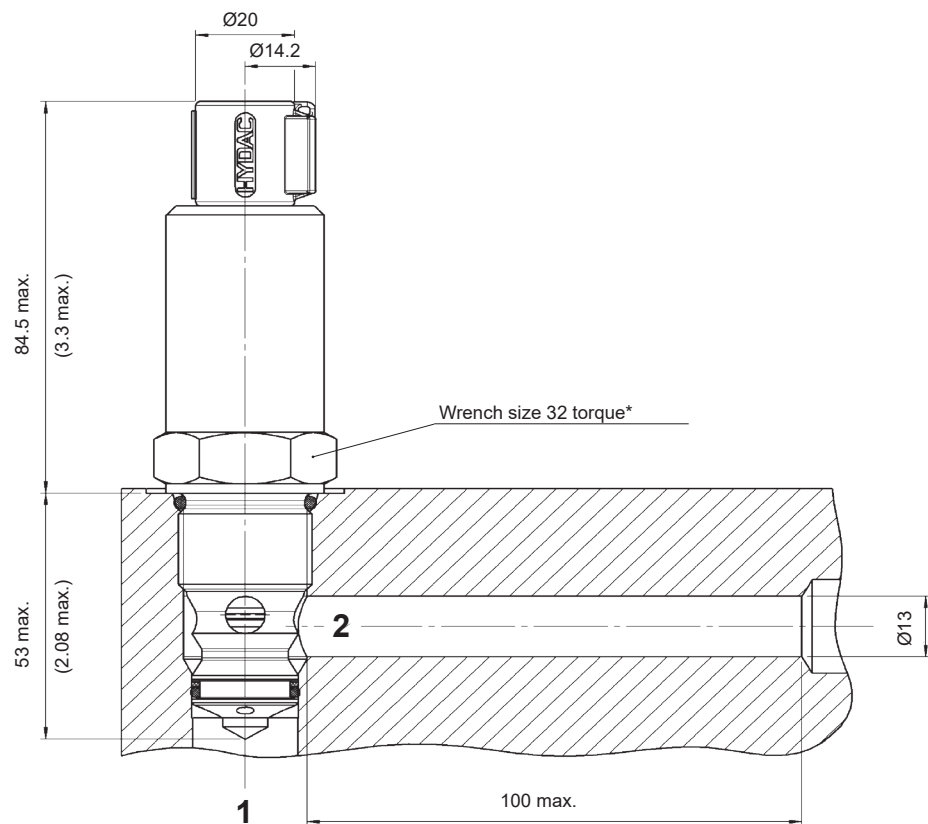
Operating pressure	Port 1: max. 400 bar Port 2: depressurised
Operating pressure range	30 to 400 bar
Flow rate	max. 110 l/min (depending on pressure range – see table "Permitted flow rate")
Temperature range of operating fluid	min. -20 °C to max. +80 °C
Ambient temperature range	min. -20 °C to max. +80 °C
Pressure fluid	Hydraulic oil to DIN 51524 Part 1, 2 and 3
Viscosity range	min. 8 mm <sup>2</sup> /s to max. 230 mm <sup>2</sup> /s or 350 mm <sup>2</sup> /s (see table "Permitted flow rate")
Filtration:	Permitted operating fluid contamination level according to ISO 4406 Class 21/19/16 or better
Installation position	No orientation restrictions
Materials	Valve body: Steel Closing element: Steel, hardened and polished Seal rings: FKM Support rings: PTFE
Cavity	12120A
Weight	0.42 kg

<sup>1)</sup> See "Conditions and Instructions for Valves" in brochure 53.000.

## PERMITTED FLOW RATE

Range for cracking pressure [bar]	Max. flow rate [l/min]	Max. viscosity [mm <sup>2</sup> /s]
30 - 35	4.5	230
36 - 39	15	
40 - 49	72	
50 - 90	80	
91 - 99	100	
100 - 400	110	
150 - 400	110	350

## DIMENSIONS



\* Tightening torque:

Steel housing (burst strength > 360 N/mm<sup>2</sup>): 65 Nm

Aluminium housing (burst strength > 330 N/mm<sup>2</sup>): 55 Nm

(With torque tool according to DIN EN ISO 6789, tool type II class A or B).

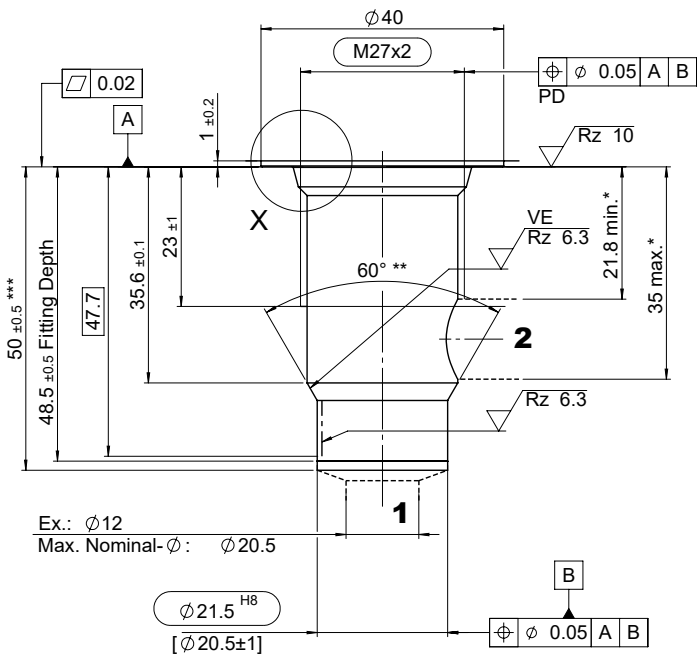
For more information, see "Operating conditions and instructions for valves" in brochure 53.000.

Millimetre (inch)

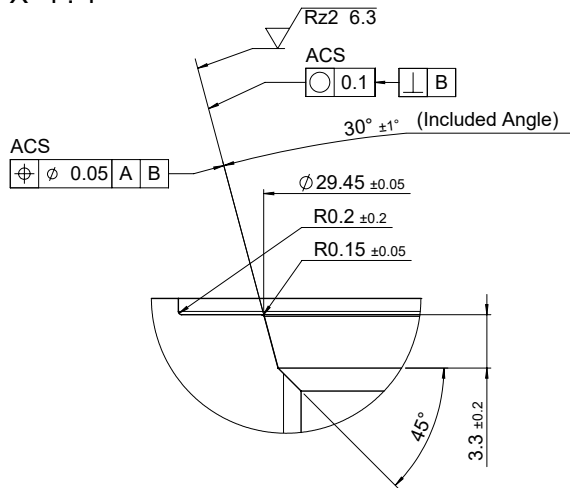
Subject to technical modifications

# CAVITY

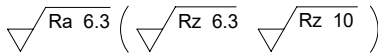
12120A



X 4 : 1



VE = Optical Examination



- \* Permitted boring zone (for block design).
- \*\* Sharp edges should be avoided using a radius of 0.1 mm to 0.2 mm.
- \*\*\* Largest pre-drilling diameter (nominal tool diameter).

Millimetre  
Subject to technical modifications.

## MODEL CODE



**DB12120A - 01 1 - CEXXXX.ENISO4126.6L. XXX. XXX**

### Description

Safety valve

### Design

### Version number

Determined by manufacturer

### Type approval code

XXXX stands for the identification number of the notified body and CE to EN ISO 4126

### Max. permitted flow rate

080 = 80 l/min

Rate depends on the pressure range (see table "Permitted flow rate")

### Cracking pressure

050 = 50 bar, cracking pressure, factory-set (see table "Permitted flow rate")

Notice: Cracking pressure setting available in 5 bar increments, e.g.: ... 50; 55; 60 ... bar

## TYPE APPROVAL CODE (only valid for EU)

**TÜV.SV.XX-981.6.F. XXX. XXX**

### Type approval code

### Year of type approval test

### Flow rate [l/min]

### Cracking pressure [bar]

DB12120A-01 1 - UKCA0168.6L . XXX . XXX

**Designation**

Safety valve

**Version number**

**Type approval code**

UKCA and notified body

**Flow rate [l/min]**

**Cracking pressure [bar]**

**DOCUMENTATION**

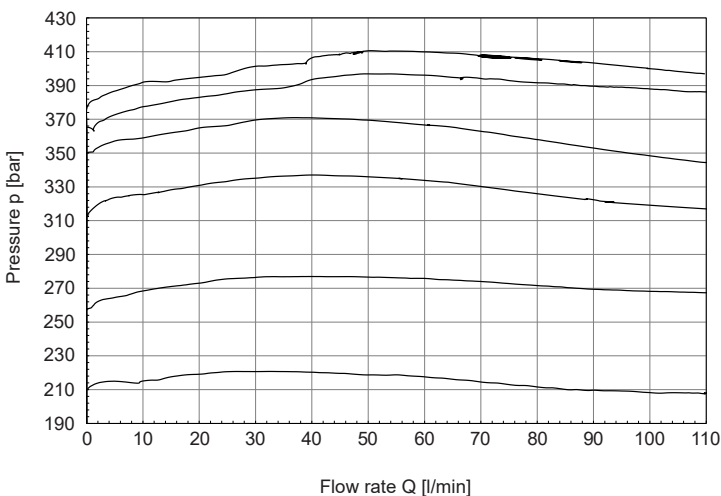
The following documents are enclosed with every valve:

- Operating instructions
- Declaration of conformity
- Conformity certificate

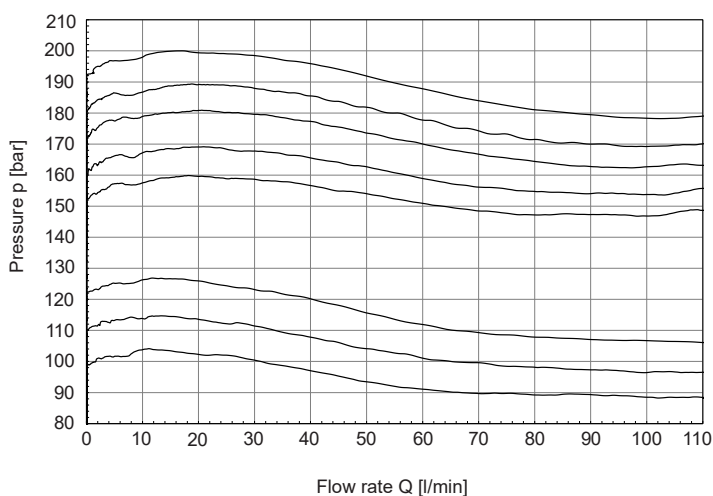
**SAMPLE CHARACTERISTICS**

Corresponds to fluid HLP 32 at fluid temperature 40 °C. The performance curves display an extended flow range, because of a reduced viscosity value. The max. permitted flow rate depends on pressure and viscosity.

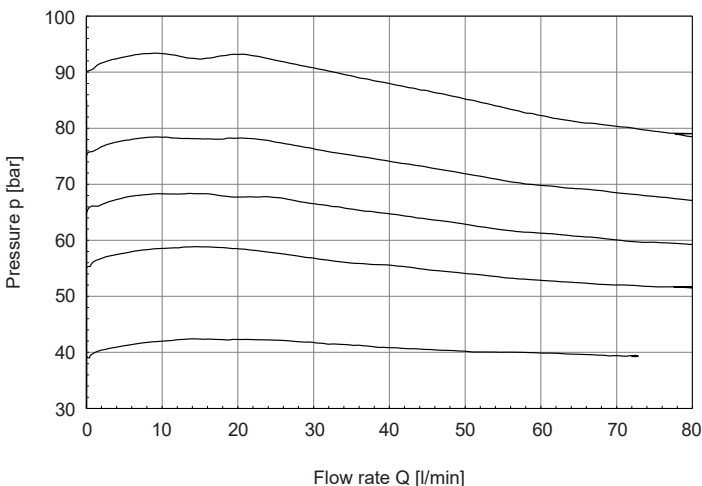
**p/Q characteristics** measured at  $v = 32 \text{ mm}^2/\text{s}$ ,  $T_{oil} = 40 \text{ °C}$   
Cracking pressure 210 / 260 / 320 / 350 / 365 / 380



**p/Q characteristics** measured at  $v = 32 \text{ mm}^2/\text{s}$ ,  $T_{oil} = 40 \text{ °C}$   
Cracking pressure 100 / 110 / 120 / 150 / 160 / 170 / 180 / 190



**p/Q characteristics** measured at  $v = 32 \text{ mm}^2/\text{s}$ ,  $T_{oil} = 40 \text{ °C}$   
Cracking pressure 40 / 55 / 65 / 75 / 90



## MATERIAL OVERVIEW

### Standard models

Designation	Part no.
DB12120A-011-CEXXXX.ENISO4126.6L.4.5.035	4726633
DB12120A-011-CEXXXX.ENISO4126.6L.072.040	3175494
DB12120A-011-CEXXXX.ENISO4126.6L.080.050	3108603
DB12120A-011-CEXXXX.ENISO4126.6L.080.060	3108604
DB12120A-011-CEXXXX.ENISO4126.6L.080.070	3108605
DB12120A-011-CEXXXX.ENISO4126.6L.080.080	3108606
DB12120A-011-CEXXXX.ENISO4126.6L.080.090	3127030
DB12120A-011-CEXXXX.ENISO4126.6L.110.100	4772414
DB12120A-011-CEXXXX.ENISO4126.6L.110.110	4775320
DB12120A-011-CEXXXX.ENISO4126.6L.110.120	3109741
DB12120A-011-CEXXXX.ENISO4126.6L.110.130	3109742
DB12120A-011-CEXXXX.ENISO4126.6L.110.140	3108620
DB12120A-011-CEXXXX.ENISO4126.6L.110.150	3108621
DB12120A-011-CEXXXX.ENISO4126.6L.110.160	4775316
DB12120A-011-CEXXXX.ENISO4126.6L.110.170	4775318
DB12120A-011-CEXXXX.ENISO4126.6L.110.180	3108623
DB12120A-011-CEXXXX.ENISO4126.6L.110.190	3108624
DB12120A-011-CEXXXX.ENISO4126.6L.110.200	3108625
DB12120A-011-CEXXXX.ENISO4126.6L.110.210	3108627
DB12120A-011-CEXXXX.ENISO4126.6L.110.220	3109743
DB12120A-011-CEXXXX.ENISO4126.6L.110.230	3108628
DB12120A-011-CEXXXX.ENISO4126.6L.110.240	3109744
DB12120A-011-CEXXXX.ENISO4126.6L.110.250	3108629
DB12120A-011-CEXXXX.ENISO4126.6L.110.260	3108630
DB12120A-011-CEXXXX.ENISO4126.6L.110.270	3109745
DB12120A-011-CEXXXX.ENISO4126.6L.110.280	3108631
DB12120A-011-CEXXXX.ENISO4126.6L.110.290	3396410
DB12120A-011-CEXXXX.ENISO4126.6L.110.300	3108632
DB12120A-011-CEXXXX.ENISO4126.6L.110.310	3615290
DB12120A-011-CEXXXX.ENISO4126.6L.110.315	3108633
DB12120A-011-CEXXXX.ENISO4126.6L.110.320	3108634
DB12120A-011-CEXXXX.ENISO4126.6L.110.330	3108635
DB12120A-011-CEXXXX.ENISO4126.6L.110.340	3109758
DB12120A-011-CEXXXX.ENISO4126.6L.110.350	3087728
DB12120A-011-CEXXXX.ENISO4126.6L.110.360	3109760
DB12120A-011-CEXXXX.ENISO4126.6L.110.370	3109761
DB12120A-011-CEXXXX.ENISO4126.6L.110.380	3499177
DB12120A-011-CEXXXX.ENISO4126.6L.110.400	3108636

Further versions on request.

### Spare parts, seal kits

Designation	Material	Part no.
FS metric 121..A/V	FKM	3651611

### Accessories, cavity tools

Description	Part no.
Countersink	173958
Reamer	174874
Tap	1002625

### Inline connection housing

Designation	Material	Ports	Pressure	Part no.
R12120A-01X-01	Steel, zinc-plated	G 3/4"	400 bar	396489

## NOTE

The information in this brochure relates to the operating conditions and applications described.

For applications not described, please contact the relevant technical department.

Subject to technical modifications.

Documents are only valid if they have been obtained via the website and are up-to-date.

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